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China's Problem: "When Do We Eat?"
Rivers of the World: The Ganges
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Peary's Flag Comes Home

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Like His Fathers Before Him, This Chinese Workman Scoops up Precious Rice with Bamboo Chopsticks. His Three Daily Meals Equal a Single Dinner of an American Child

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To keep overworked soil producing, farmers fertilize with ashes, bean cakes, and mud from canal bottoms.

Great dividing line for crops is the central mountain chain that blocks off southern monsoon rains. North of it dry farmland yields wheat, soybeans, millet, corn, kaoliang, and oats. To the south, where rainfall nearly doubles, live the rice farmers often regarded as typical of all China. With water buffalo they plow black mud paddies, then set out thirsty shoots. Rice, one of China's major crops, abounds in some areas, is a seldom-seen luxury elsewhere.

Rugged highlands like Fang Tou and Kunlun mountains hinder transportation as well as farming. About half the country rises to heights of a mile or more. The lonely plateau of Tibet, "roof of the world," levels out at 16,000 feet above sea level. Mountain peaks climb higher.

Land of contrasts, China stretches some 2,600 miles from humid forests and jungles in the south across brown, barren wasteland to the Manchurian loop. Flood and drought alternately plague the North Central Plain, largest and most productive level region. The Yellow River, called "China's Sorrow," drowns or dispossesses thousands annually.

Chinese are as varied as their terrain. People in different regions speak local dialects. Tall, broad-shouldered northerners talk slowly; southerners are smaller, quick in movement. On China's coast, people look to the sea for food and livelihood; inlanders rely on the soil.

Whole families—grandparents, parents, children—cram into tiny homesteads of a few houses made of mud or bamboo and clay. Millions huddle on small farms of great river plains. Many spend their entire lives

Every Arable Inch Is Farmed. Homes Occupy Rocky and Infertile Land. China Needs Much More Food Than It Produces to Feed Its Population, Three Times That of the U. S.

U. S. ARMY AIR TRANSPORT COMMAND

W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

Millions Jam China's Cities. Chungking's Population Overflows to Kialing River Banks

China's Problem: "When Do We Eat?"

你吃過飯沒有

Just as Americans say, "Good evening," when they meet a friend, the Chinese smile and ask, "Have you eaten?"

Whether written artistically with a thin Chinese brush, or shouted to a neighbor on his way from a rice paddy, the greeting (left) reflects food's importance to the 4,000-year-old country. From early dynasties to present-day communist rule, the empty stomach has been China's ever-present problem.

Only a tenth of Red China's 4,000,000 square miles is arable, but four out of every five men till the soil. It is their job to try to produce enough food for the country's half billion people, one fourth of the world's population. Every year they fail, and wheat, sugar, rice, and wheat flour must be imported.

Farmers in loose, baggy trousers plow, hoe, and harrow just as their fathers did. Their tiny plots of "the good earth," handed down from ancestors, average about three acres. They make every foot count. Families carry earth by the basketful and spread it on mountain slopes to make terrace farms like giant stairsteps. Some hillside terraces reach 8,000-foot heights.

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Rivers of the World: No. 9

India's Holy Ganges Nourishes Hindu Faith

As you read this, heat lies like a heavy hand over India's lower Ganges. Sudden dry winds stir dust from parched fields. Lethargy grips the visitor, often preventing him from sleeping, even destroying his will to read in the shade of his Calcutta hotel.

The Ganges River flows slowly, its water the color of chocolate. To its banks plod thousands of India's 300,000,000 Hindus through searing temperatures. Their pilgrimage is no holiday stroll, subject to suitable weather. They come to bathe and drink, to wash away sins and nourish their souls in the Ganges—more sacred to its people than any other great river in the world.

In a month the southwestern monsoon will pile clouds over the Bay of Bengal and burst upon the land with violent thunderstorms which settle down to long, steady rain. The valley picks up practically all its annual rainfall during the four-month monsoon. Calcutta gets over 80 inches. Westward, up the Ganges valley, the amount gradually diminishes to about 40 inches. Sun-cracked fields soften and sprout with new life. Corn, sugar cane, cotton, barley, rice, almost every variety of crop flourishes. And through the rain, pilgrims still come to the swollen Ganges.

In a land where religion molds human life, the Ganges lends its sanctity to everything around it, even the mountains from which it springs. The pious Hindu includes the soaring walls of the Himalayas in his devo-

Where the Hindu Gods Brahma, Vishnu, and Shiva Did Penance, These Supplicants Cleanse Their Souls in the Ganges During Allahabad's Sacred Festival

NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

within 20 miles of home. Hundreds of thousands more jam China's streams and harbors with houseboats. Some rarely touch land.

In winter shivering Chinese wear suits padded with wadded cotton. As temperatures drop, they don more suits and crowd around fires kindled with dried grasses and roots. Little wood is burned; most forests have been cleared for farmland.

Under China's soil lie vast reserves of mineral wealth, most of it untouched because the country needs more roads and railroads to get raw materials to its few factories and mills. Although beds of coal and iron ore are close together in many provinces, only a few mills make steel. They produce just one fiftieth of the United States total.

Oil fields dot the far northwest and north-central areas and also southern Manchuria. Mines turn out the essentials for the country's modest industrial needs—antimony, tungsten, tin, aluminum, zinc, lead, and manganese.

From crowded ports like Shanghai, where some 6,000,000 people live, foreign trade has dwindled because of the East-West cold war. A few merchantmen still take aboard tea, pigs' bristles, and tung oil—old export specialties that provide a slender income for Red China. But they fall short of solving the problem of a land with too many people and too little food.

References—See the Society's maps of China, and The China Coast and Korea. Write the Society's headquarters, Washington 6, D. C., for publication order list. *National Geographic Magazine*, April, 1953, "Eyes on the China Coast"; Sept., 1949, "Power Comes Back to Peiping"; March, 1948, "Along the Yangtze, Main Street of China"; GEOGRAPHIC SCHOOL BULLETINS, Nov. 15, 1954, "Rivers of the World: The Yangtze." Consult the *National Geographic Magazine Cumulative Index* for many other articles on China. *School and library discount price for Magazine issues a year old or less, 50¢; through 1946, 65¢. Write for prices of earlier issues.*

W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

Ancient, ornate pagodas near Peiping reflect the centuries-old culture of China, world's oldest living civilization. Chinese craftsmen invented porcelain, gunpowder, and paper centuries before America was discovered.

At Allahabad the Jumna joins the Ganges. It was here, according to the Hindu religion, that the god Brahma prepared to create the world. Vishnu, the preserver, and Shiva, the destroyer, other deities in the Hindu trinity, also did penance where the waters meet. Each year a religious festival draws hundreds of thousands of pilgrims from all over India. Wrapped in white cotton dhotis, they wade devoutly into the sluggish water.

Allahabad at festival time takes on the aspect of a county fair. Reed huts sprout beside the river to shelter pilgrims and priests. Half naked *sadus*, or holy men, walk barefoot through beds of glowing coals. Cries of vendors mingle with the murmur of prayers.

The river washes another sacred city—Banaras (Benares). Its 1,500 gleaming temples look down on ghats, or steps that stretch two miles along the waterfront. Bathers constantly crowd the banks. Funeral parties come to spread the ashes of the deceased on the Ganges's broad bosom.

One of the world's great cities sprawls on the Ganges delta. Calcutta, with a shifting population estimated at about 8,000,000, is India's great port. Steamers from all the world lie 30 miles off the delta until a pilot guides them through shoal waters and up the Hooghly River, one of the delta mouths, which forms a 90-mile-long harbor. Already 200 miles wide and 250 miles deep, the delta is constantly growing.

Many of India's industries throb close to Calcutta, supplementing home crafts like weaving for which the country has long been famous. During World War II, Indian plants turned out military equipment, including aircraft. The important Tata Iron and Steel Company rises at Jamshedpur near the edge of the Ganges Basin, but little industrial use has been made of the river itself.

Within Calcutta, industrialists in Western garb share the streets with snake charmers and beggars. Oxcarts creak to market with produce from outlying fields, while airliners snarl skyward from the airport at Dum Dum. Pilots are apt to be bearded Sikhs, earphones clamped over turbans. Hostesses wear soft-colored saris, and hand spices instead of chewing gum to their passengers.

In 1756, native insurgents crammed 146 Europeans into a tiny guardroom in the city. Only 23 survived the "Black Hole." Later, Calcutta housed Britain's viceroy in days of Bengal Lancers and polo-playing

NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

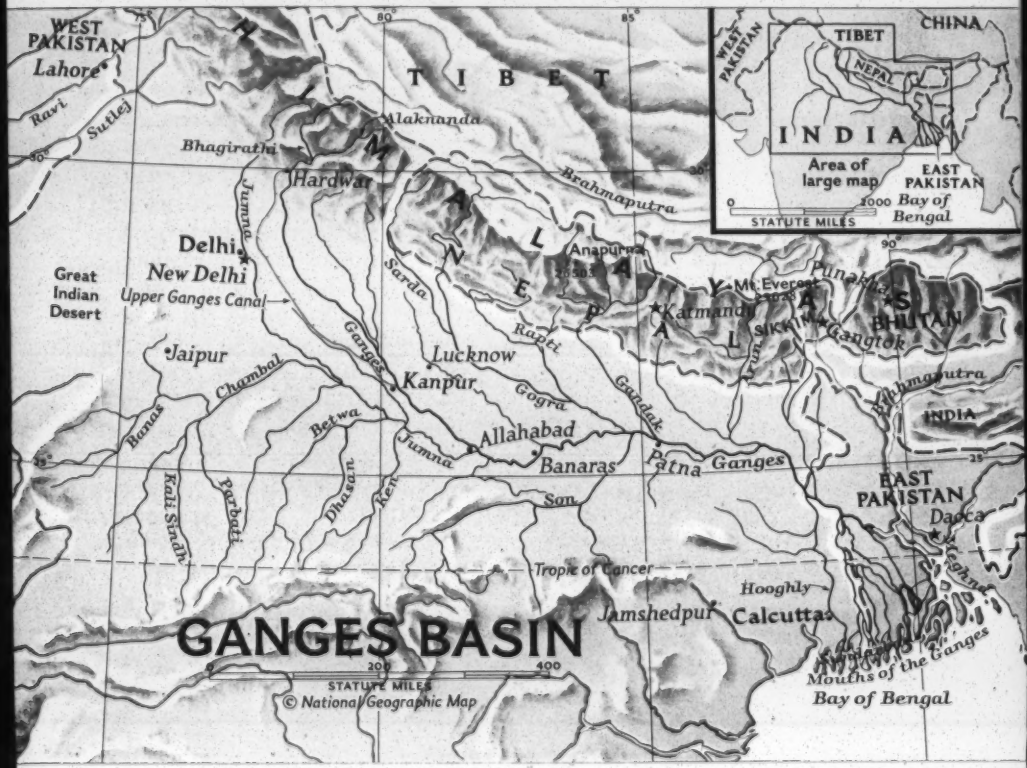
Home crafts date from far in India's past. Many of them, like this fine ivory carving, abound in Delhi. The late Mahatma Gandhi revived the old art of spinning in order to teach self-sufficiency and thus self-government. But today's Prime Minister Nehru sees in Western-style industry the great salvation for the economy of his crowded country.

tions. If he thinks his sins are serious, he may trudge the entire length of the river up the left bank almost to its source, 10,300 feet above sea level. He sprinkles himself with water deemed especially holy, then returns to the lowlands along the right bank of the 1,500-mile stream.

The Ganges Basin—bigger than Texas, Oklahoma, Louisiana, and Arkansas combined—cuts a wide swath across the top of India's peninsula, between the Himalayas and the diminutive Vindhya range. A broad, fertile belt, it gradually slopes toward the east and the Bay of Bengal. In ancient times, Greeks, Huns, Moguls, and Moslems invaded from the northwest and pushed down the valley to form India's melting pot.

Most of the basin lies within the Republic of India, organized by partition of the country in 1947. Seventy-five million people, India's densest population, crowd the basin, living in and around some of the world's most fabled cities. Hardwar, close to the Himalayan foothills and another scene of pilgrimages, marks the headworks of the Upper Ganges Canal which irrigates hundreds of thousands of bottomland acres in the comparatively arid western basin. At Kanpur (Cawnpore), Sepoy mutineers of 1857 massacred 800 Europeans. During the same rebellion, 1,700 soldiers and civilians at Lucknow held off 10,000 mutineers until the distant skirling of bagpipes heralded Highland reinforcements which saved the town.

Delhi on the Jumna River, the longest Ganges tributary, is the site of eight cities, six of which have been destroyed by various conquerors who stormed India in ages past. It remains the capital of the republic as it was of British India. Down the Jumna from Delhi lies Agra with its famous white marble Taj Mahal, often judged the world's most beautiful building.



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Ninety Miles up the Hooghly River, Ocean-Going Vessels Share Calcutta's Busy Waterfront with Native Craft from Shallower Stretches of the Ganges

subalterns. "East is East, and West is West, and never the twain shall meet," wrote Rudyard Kipling, beloved voice of Imperial India.

Everywhere in the city today sacred cows wander freely along pavements, up the steps of a British-built bank building, past the glittering foyer of a movie theater featuring Indian films. And everywhere, too, is the influence of the sacred river. Young and old stop to wash and drink at hydrants. The water is from the Ganges and therefore the source of purity for believers.

References—The Ganges is shown on the Society's map of Southwest Asia. *National Geographic Magazine*, April, 1946, "India Mosaic"; Oct., 1943, "India—Yesterday, Today, and Tomorrow"; GEOGRAPHIC SCHOOL BULLETINS, March 22, 1954, "Ganges River Cleanses Hindu Souls."

This ends the Rivers of the World series. (Issues Nos. 1, 4, 7, 10, 13, 16, 19, 24, 30.)

Quick Quiz on Rivers of the World Series

1. **Imagine you are taking a trip along one of the rivers in the series. Tell what you would see along the way.**
2. **How many legends can you recall that are connected with rivers in the series?**
3. **What river rises less than 100 miles from the Pacific and empties into the Atlantic? Who discovered it?**
4. **What river empties into the sea near Shanghai? What crops line its banks?**
5. **The Danube flows through or bounds many European countries. How many can you name?**
6. **What river is part of the world's longest inland waterway system?**
7. **In what river basin do sacred cows wander at will?**
8. **Name the river that has emerged in world importance since uranium deposits have been found in its basin.**
9. **Name the river in this series that flows into an inland sea.**
10. **The ancients said the source of one of the world's greatest rivers was in the "Mountains of the Moon." Can you name the river?**
11. **What river gives Switzerland a "seaport?" Name other countries it serves.**
12. **Comparing all the factors you can think of, how would you rate in world importance the nine rivers discussed?**

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Peary's Flag Comes Home

An honored flag, once whipped by icy winds at the top of the world, has reached permanent haven at the National Geographic Society's headquarters in Washington, D. C. Before a distinguished audience, Dr. John Oliver La Gorce, President of The Society, and Dr. Gilbert Grosvenor, Chairman of the Board of Trustees, received on behalf of 2,150,000 members the United States flag that Admiral Robert E. Peary set on the North Pole 46 years ago.

The Admiral's daughter, Mrs. Marie Peary Stafford, presented the emblem as a gift from her 91-year-old mother, who was awarded The Society's Special Gold Medal for the active part she played in her husband's explorations. She often accompanied him to the Arctic. In fact, the Pearys' daughter, called "Snowbaby" by the Eskimos, was born farther north than any other white child. With her own hands, Mrs. Peary painstakingly stitched the taffeta banner which, on April 6, 1909, her husband finally "nailed to the Pole."

Peary's achievements remain unique. Though equipment for arctic survival has vastly improved, no other party has ever walked to the top of the world.

The National Geographic Society contributed substantially to Peary's final dash for the Pole. Previously, The Society had awarded him its Hubbard Medal for his attainment of the "farthest north" during his long series of Arctic explorations.

The October, 1954, *National Geographic Magazine* tells the full story of Peary's gruelling expeditions during which he cached pieces snipped from the flag. Two fragments have been recovered. In the picture above, at Cape Thomas Hubbard, some of the patches can be seen.

The gallant old flag will be installed in Explorers Hall on view to all individuals and groups visiting The Society's building.